

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 1550

**Publication Number:** P536

**Abstract Group:** 1.12. Clinical Problems - COPD

**Keyword 1:** COPD - management **Keyword 2:** Comorbidities **Keyword 3:** No keyword

**Title:** Effect of antidepressants on respiration with chronic physical disease

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**Body:** Physical illness is strongly associated with depression. In Korea, 23.8% of COPD patients suffer from depression. Aside from being an unpleasant condition in its own right, depression is a risk factor for poor prognosis of physical diseases. Therefore, it has been emphasized that management of depression in patients with physical illness. Anxiolytics such as diazepam is well known to have respiratory suppression. But little is known for the anti-depressant to have such effects. The aim of this study was to evaluate the effects of anti-depressants on respiration in patients with physical illness including COPD. We performed systematic review of randomized controlled trial. A literature search was conducted for key words "depressive disorder, pharmacological therapy and chronic illness" using Medline\_pubmed, Embase, Cochrane library, and National Guideline Clearinghouse (NGC). A total 69 studies were recruited. Of these, nine studies were included for final analysis (six studies for COPD, three studies reporting dyspnea as an adverse event). Anti-depressants didn't worsen the respiratory symptoms nor cause respiratory suppression in patients with COPD. Anti-depressants had no effects on pulmonary function, exercise capacity and the results of blood gas analysis in COPD patients. In patients with chronic illness other than COPD, anti-depressants caused less dyspnea compared to placebo (13% vs. 17.6%,  $p < 0.0001$ ) and did not develop the respiratory suppression. In conclusion, anti-depressants did not aggravate dyspnea in patients with chronic physical illness including COPD. However, it is not sufficient to conclude that anti-depressants are safe in physically ill patients. A large prospective study is warranted.